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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/659,217

09/09/2003

Denis O'Keeffe

09623C-041710US

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01/09/2006

TOWNSEND AND TOWNSEND AND CREW, LLP  
TWO EMBARCADERO CENTER  
EIGHTH FLOOR  
SAN FRANCISCO, CA 94111-3834

EXAMINER

SHERMAN, STEPHEN G

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 01/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/659,217

Applicant(s)

O'KEEFFE ET AL.

Examiner

Stephen G. Sherman

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Wu (US 2002/0135562).

***Regarding claim 1***, Wu discloses an input device comprising:

a housing ( Figures 2A and 2B) having:

a bottom case (Figure 2B. The housing can be seen to have a bottom case attached to the upper section 22); and

an upper member disposed above the bottom case (Figure 2B. The upper section 21/22 is disposed above the bottom case.),

the upper member including a palm rest configured to support a user's palm (Figures 2A and 2B, item 22 and paragraph [0024])

and at least one key plate extending continuously from the palm rest to form a hinge between the at least one key plate and the palm rest without a gap (Figures 2A and 2B, item 21 and paragraphs [0024] and [0025]. The examiner interprets that the elongated recess 23 is a hinge.),

the at least one key plate being movable in bending relative to the palm rest at the hinge to activate a key switch (Paragraph [0025]).

**Regarding claim 2**, Wu discloses the input device of claim 1 wherein the hinge comprises a hinge recess which is smaller in thickness than the palm rest (Figure 2B and paragraph [0025]. It can be seen from Figure 2B that the recess 23 is smaller in thickness than the palm rest 22.).

**Regarding claim 3**, Wu discloses the input device of claim 2 wherein the hinge recess is smaller in thickness than the at least one key plate (Figure 2B and paragraph [0025]. It can be seen from Figure 2B that the recess 23 is smaller in thickness than the key plate 21.).

**Regarding claim 4**, Wu discloses the input device of claim 3 wherein the hinge recess decreases in thickness gradually from the palm rest and from the at least one key plate, reaching a minimum thickness at an intermediate location between the palm rest and at least one key plate (Figure 2B and paragraph [0025]. It can be seen from

Figure 2B that the recess 23 reaches a minimum thickness at an intermediate location between the palm rest 22 and the key plate 21.).

3. Claims 11-14 and 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Su (US 2003/0001819).

***Regarding claim 11***, Su discloses an input device comprising:

a housing (Figure 1, item 100) having:

a bottom case (Figure 1, item 10 and paragraph [0010]) ;

a top case connected to the bottom case (Figure 1, there is a top case located between the bottom case 10 and the upper section 20.),

the top case including a left side grip and a right side grip being formed on a single piece component (Figure 1, there is a side grip on both sides located between the bottom case 10 and the upper section 20 which are formed on the single piece component.),

the left side grip and the right side grip being configured to be held by a user's thumb on one side and by at least one of the user's ring finger and little finger on another side (Figure 1, the grips on both sides would be held by the user's ring finger and little finger as is done on any conventional mouse.);

and an upper member connected to the top case and including a palm rest configured to support the user's palm (Figure 1 and paragraph [0010]. Item 20 is an upper member which includes a palm rest to support a user's palm.).

**Regarding claim 12**, Su discloses the input device of claim 11 wherein the single piece component includes a front connected between the left side grip and the right side grip (In Figure 1, there is a front section connected between the left and right grip between push sections 24 and base 10 on the single piece component.).

**Regarding claim 13**, Su discloses the input device of claim 11 wherein at least one of the left side grip and the right side grip has a concave surface (Figure 1, it can be seen from the curve in the structure that the section of the grip is formed as a concave surface.).

**Regarding claim 14**, Su discloses the input device of claim 11 wherein a portion of the single piece component has a hollow interior (Figure 2. The examiner interprets that since the connections and the switches are located inside of the housing that at least a portion of the single piece component would be hollow.).

**Regarding claim 18**, Su discloses an input device comprising:  
a housing (Figure 1, item 100) having:  
a bottom case (Figure 1, item 10 and paragraph [0010]);  
a top case connected to the bottom case (Figure 1, there is a top case located between the bottom case 10 and the upper section 20.),

the top case including a left side grip and a right side grip (Figure 1, there is a side grip on both sides located between the bottom case 10 and the upper section 20.),

the left side grip and the right side grip being configured to be held by a user's thumb on one side and by at least one of the user's ring finger and little finger on another side (Figure 1, the grips on both sides would be held by the user's ring finger and little finger as is done on any conventional mouse.);

and an upper member connected to the top case (Figure 1, item 20 and paragraph [0010].),

the upper member including a palm rest configured to support the user's palm and at least one key plate connected to the palm rest by a hinge without a gap, the at least one key plate being movable in bending relative to the palm rest at the hinge (Figure 2 and paragraph [0010]. The examiner interprets that the palm rest is section 20 of the upper member and the key plate is section 24 of the upper member and that the hinge is located at item 22 since that is where the upper member is operable to bend.).

**Regarding claim 19**, Su discloses the input device of claim 18 wherein the left side grip and the right side grip of the top case are formed on a single piece component (Figure 1, there is a side grip on both sides located between the bottom case 10 and the upper section 20 which are formed on the single piece component.).

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**Regarding claim 20**, Su discloses the input device of claim 18 wherein the at least one key plate extends continuously from the palm rest to form the hinge between the at least one key plate and the palm rest without a gap (Paragraphs [0010] and [0011]).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 5- 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (2002/0135562) in view of Su (US 2003/0001819).

**Regarding claim 5**, Wu discloses the input device of claim 2.

Wu fails to teach wherein the at least one key plate comprises a left key plate and a right key plate extending forward from the palm rest, wherein the left hinge recess is angled forward and outward to the left from a central region of the upper member, and wherein the right hinge recess is angled forward and outward to the right from the central region of the upper member.

Su discloses of an input device wherein a key plate comprises:

a left key plate and a right key plate extending forward from the palm rest (Figure 1, items 24 can be seen to be a left and a right key plate.),

wherein the left hinge recess is angled forward and outward to the left from a central region of the upper member (Figure 1, the left hinge 24 can be seen to extend forward and outward to the left.),

and wherein the right hinge recess is angled forward and outward to the right from the central region of the upper member (Figure 1, the right hinge 24 can be seen to extend forward and outward to the right.).

Therefore it would have been obvious to “one of ordinary skill” in the art at the time the invention was made to use the upper member design of Su with the input device taught by Wu in order to provide a seamless mouse where its radial push key will have better control and performance.

**Regarding claim 6,** Wu discloses the input device of claim 1.

Wu fails to teach wherein the at least one key plate comprises a left key plate and a right key plate which are spaced from one another by a spacing, and further

comprising an island disposed in the spacing and connected between the left key plate and the right key plate.

Su discloses an input device wherein the a key plate comprises:

a left key plate and a right key plate which are spaced from one another by a spacing (Figure 1 shows a left and a right key plate 24 which are spaced from one another.),

and further comprising an island disposed in the spacing and connected between the left key plate and the right key plate (Figure 1 shows that a left and a right key plate are spaced by an island which includes a scroll button.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to use the upper member design of Su with the input device taught by Wu in order to provide a seamless mouse where its radial push key will have better control and performance.

***Regarding claim 7,*** Wu and Su disclose the input device of claim 6.

Su also discloses wherein the island includes at least one opening through which at least one user-manipulable object protrudes from an interior of the housing to be operable by a user's finger (Figure 1 the island located between key plates 24 can be seen to have a scroll button.).

***Regarding claim 8,*** Wu and Su disclose the input device of claim 7.

Su also discloses wherein the at least one user-manipulable object comprises of a roller which also acts as a push button (Paragraph [0011]).

**Regarding claim 9**, Wu and Su disclose the input device of claim 1.

Wu and Su fail to explicitly teach wherein the upper member is coupled to a top case which is connected to the bottom case, the upper member including beveled edges to substantially conceal gaps between the upper member and the top case.

However, Su does teach that in the seamless mouse that there is no need for a clearance between the conventional push key and the top cover.

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to have bevel edges to conceal gaps to provide a seamless mouse as taught by the combination of Wu and Su in order to provide a mouse where the radial push key can have better control and operation performance.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (2002/0135562) in view of Su (US 2003/0001819) and further in view of Nakamura et al. (US 6,801,967).

**Regarding claim 10**, Wu and Su disclose the input device of claim 1.

Wu and Su fail to teach wherein the bottom case includes an alignment groove configured to be aligned with an alignment protrusion of a recharging member.

Nakamura et al. disclose an input device wherein the bottom case includes an alignment groove configured to be aligned with an alignment protrusion of a recharging member (Figures 2B and 5A-B and column 4, lines 25-27).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to combine the rechargeable mouse taught by Nakamura et al. with the mouse taught by the combination of Wu and Su in order to provide a seamless mouse in which the battery can be easily recharged without having the configuration bulky, hard to use and expensive.

8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Su (US 2003/0001819).

***Regarding claim 15***, Su discloses the input device of claim 14.

Su fails to teach wherein the single piece component having the hollow interior is formed by gas assisted injection molding.

However, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to form the single piece component using gas assisted injection molding since it is well known that gas assisted injection molding results in material savings including reduction of cost and reduction of time, it also results in the quality improvement by removal of sink marks, reducing internal stresses and allows for greater freedom in the design of parts.

9. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Su (US 2003/0001819) in view of Wu (2002/0135562).

***Regarding claim 16,*** Su discloses the input device of claim 11.

Su fails to teach wherein the single piece component has a thick portion which is thicker than a thin portion, and wherein the thin portion comprises a first material and wherein the thick portion comprises the first material and a second material.

Wu discloses an input device wherein the single piece component has a thick portion which is thicker than a thin portion (Figure 5B, section 52 is thicker than a section 54.), and wherein the thin portion comprises a first material (Figure 5B the thin portion 54 can be seen to comprise a first material.) and wherein the thick portion comprises the first material and a second material (Figure 5B the thick portion 52 can be seen to comprise a first and second material.).

***Regarding claim 17,*** Su and Wu disclose the input device of claim 16.

Wu and Su fail to teach of an input device wherein the single piece component having the thick portion and the thin portion is formed by dual material injection molding.

However, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to form the single piece component by using dual material injection molding since it is well known that dual material injection molding has high production rates and results in a minimum loss of materials.

**Conclusion**

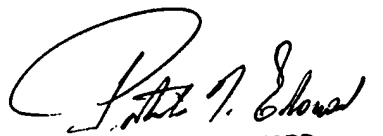
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen G. Sherman whose telephone number is (571) 272-2941. The examiner can normally be reached on M-F, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SS

27 December 2005



PATRICK N. EDOUARD  
PATENT EXAMINER